DEVELOPMENT SERVICES
ENVIRONMENTAL COORDINATOR
450 110th Ave NE., P.O. BOX 90012
BELLEVUE, WA 98009-9012

OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

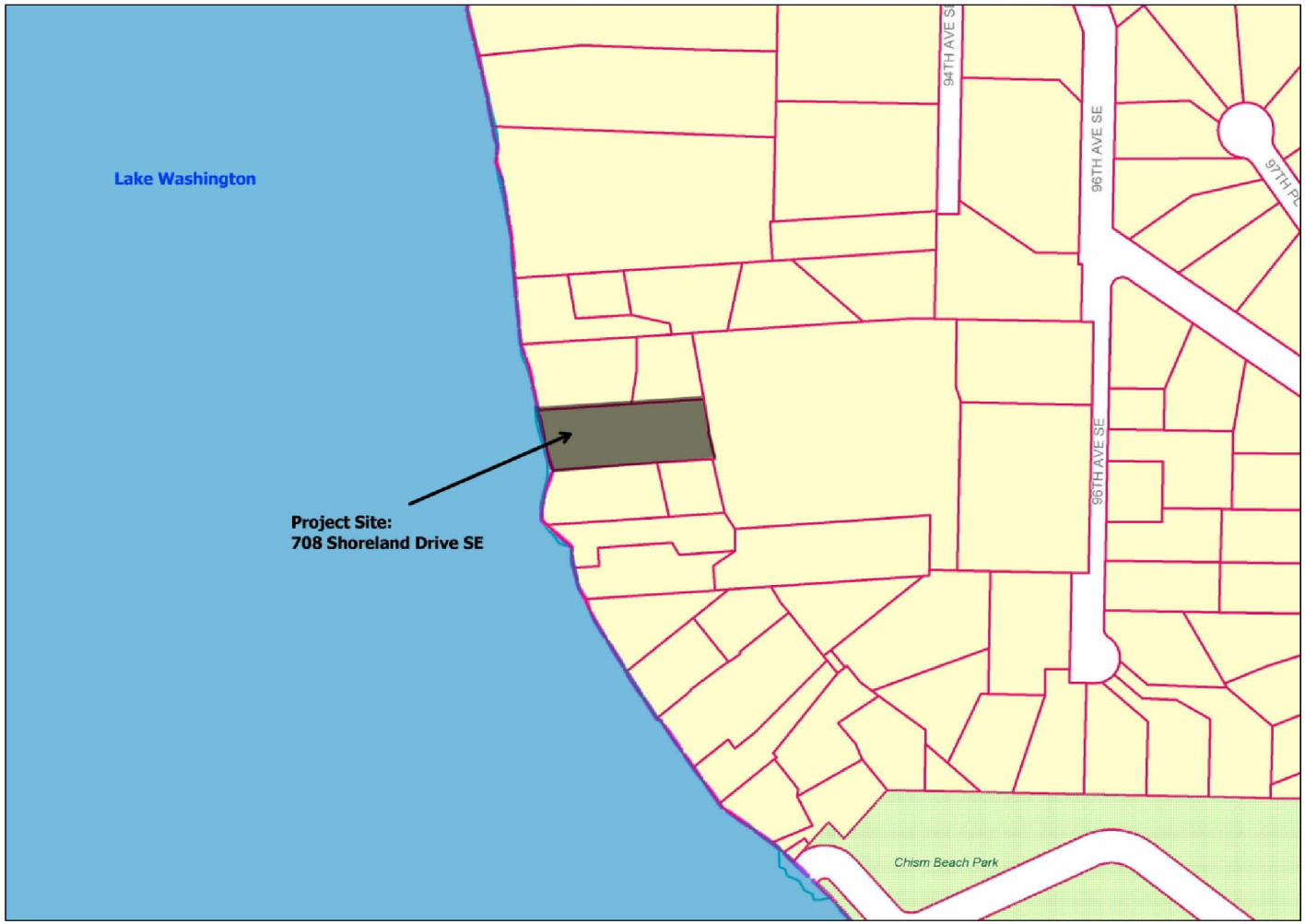
The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No.	10-112050-LO
Project Name/Address:	Vowels Soldier Pile Wall 708 Shoreland Drive SE
Planner:	Reilly Pittman
Phone Number:	425-452-4350
Minimum Comment Period:	**June 3, 2010**

Materials included in this Notice:

- ☒ Blue Bulletin
- ☒ Checklist
- ☒ Vicinity Map
- ☒ Plans
- ☐ Other:

Vowels Soldier Pile Wall Vicinity Map
File Number: 10-112050-LO



SEPA Checklist Annotated by Reilly Pittman on 5/18/10

City of Bellevue Submittal Requirements	27

ENVIRONMENTAL CHECKLIST

4/18/02

Thank you in advance for your cooperation and adherence to these procedures. If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

INTRODUCTION
Purpose of the Checklist:

The State Environmental Policy Act (SEPA), Chapter 43.21c RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the City of Bellevue identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the City decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer or if a question does not apply to your proposal, write "do not know" or "does not apply." Giving complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the Planner in the Permit Center can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. Include reference to any reports on studies that you are aware of which are relevant to the answers you provide. The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

Use of a Checklist for Nonproject Proposals: *A nonproject proposal includes plans, policies, and programs where actions are different or broader than a single site-specific proposal.*

For nonproject proposals, complete the Environmental Checklist even though you may answer "does not apply" to most questions. In addition, complete the Supplemental Sheet for Nonproject Actions available from Permit Processing.

For nonproject actions, the references in the checklist to the words *project*, *applicant*, and *property* or *site* should be read as *proposal*, *proposer*, and *affected geographic area*, respectively.

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Attach an 8 ½" x 11 vicinity map which accurately locates the proposed site.

City of Bellevue Submittal Requirements | **27a**

ENVIRONMENTAL CHECKLIST

4/18/02

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BACKGROUND INFORMATION

Property Owner: Martin & Pamela Vowels

Proponent:

Contact Person:
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: 708 Shoreland Drive SE, Bellevue, WA 98004

Phone: 425-864-5804

Proposal Title: Vowels Remodel of Existing Residence

Proposal Location: 708 Shoreland Drive SE
(Street address and nearest cross street or intersection) Provide a legal description if available.

Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description: Add soldier pile wall, entry cover, utilities, mechanical equipment, enclosed existing detached garage/Apt.
2. Acreage of site: 33,479 SF
3. Number of dwelling units/buildings to be demolished: Ø
4. Number of dwelling units/buildings to be constructed: Ø
5. Square footage of buildings to be demolished: NA
6. Square footage of buildings to be constructed: NA
7. Quantity of earth movement (in cubic yards): Very little, mostly replacing existing rock wall with soldier pile wall.
8. Proposed land use: Existing Residence
9. Design features, including building height, number of stories and proposed exterior materials: Restore existing 1950's to 1960's private residence
10. Other

Estimated date of completion of the proposal or timing of phasing:

Hopefully within a few months of CALUP approval. So hopefully September 2010

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Does not apply (DNA) **Geotechnical Reports**

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

DNA

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

Not sure this is applicable. Only other permit is 09-131082BR

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☐ Preliminary Plat or Planned Unit Development
Preliminary plat map

☐ Clearing & Grading Permit
Plan of existing and proposed grading
Development plans

☑ Building Permit (or Design Review) Permit 09-131082BR under review by Tom Miller.
Site plan
Clearing & grading plan

☐ Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

1. **Earth**

a. General description of the site: ☐ Flat ☒ Rolling ☐ Hilly ☒ Steep slopes ☐ Mountains ☐ Other

b. What is the steepest slope on the site (approximate percent slope)? 40%

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Per Geo Report loose silty sand overlaying dense, glacially compressed silt.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

See attached Geotech letter

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

I believe this DNA. There will be some pea gravel or clean sand behind wall for drainge

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

DNA

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

No increase in impervious surfaces are expected.

Construction to be internal or over existing impervious surface except for soldier pile wall

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

No erosion is expected.

Erosion control BMPs may be required. Addressed by BCC 23.76.090.

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Emissions from drill and track hole. Small project so quantities should be low.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

DNA

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

DNA

3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If

Lake Washington

appropriate, state what stream or river it flows into.

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans. Work will be approx 150' from lake. Project is confined and small so no lake impact,

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

DNA

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

DNA

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Do not know ***The work area is not in a floodplain***

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Do not expect any

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

DNA

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

DNA

c. Water Runoff (Including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The area where work will be done has historically had very little runoff

Due to topography the site drains to Lake Washington

(2) Could waste materials enter ground or surface waters? If so, generally describe.

DNA

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Will monitor to make sure no run off. Do not expect any.

4. Plants

a. Check or circle types of vegetation found on the site:

- ☑ deciduous tree: alder, maple, aspen, other
- ☑ evergreen tree: fir, cedar, pine, other
- ☑ shrubs
- ☑ grass
- ☐ pasture
- ☐ crop or grain
- ☐ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

The only vegetation removed or altered will be ivy, blackberry bushes and very small stumps on top of rockery.

c. List threatened or endangered species known to be on or near the site.

There are none

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

We are essentially only removing the existing rockery. The minor impact on the existing ivy will be allowed to grow back.

Mitigation per LUC 20.25H.220

5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

- ☑ Birds: hawk, heron, eagle, songbirds, other:
- ☐ Mammals: deer, bear, elk, beaver, other:
- ☑ Fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

DNA *Salmon and bird species which use Lake Washington*

c. Is the site part of a migration route? If so, explain.

No *Pacific Coast Flyway*

d. Proposed measures to preserve or enhance wildlife, if any:

DNA

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

Electric & LP for lights, heating & cooking

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any: insulation, windows and addition significant improvement in of heat pump & LP cooking.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

DNA

(1) Describe special emergency services that might be required.

DNA

(2) Proposed measures to reduce or control environmental health hazards, if any.

DNA

b. Noise

(1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

None that I am aware of.

(2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site. Typical Drill & track hoe noise during normal business hours

Noise regulated by BCC 9.18

(3) Proposed measures to reduce or control noise impacts, if any:

DNA

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Residential

b. Has the site been used for agriculture? If so, describe.

No

c. Describe any structures on the site.

Main house, detached apartment and cabana

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

R 2.5

f. What is the current comprehensive plan designation of the site?

Assume residential ***SF-M, Single Family - Medium Density***

g. If applicable, what is the current shoreline master program designation of the site?

Assume residential

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No ***Steep slopes on-site and within 200' of Lake Washington***

I. Approximately how many people would reside or work in the completed project?

3 to 5

j. Approximately how many people would the completed project displace?

DNA Zero

k. Proposed measures to avoid or reduce displacement impacts, if any:

DNA

i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

No changes to existing land use

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

DNA

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

DNA

c. Proposed measures to reduce or control housing impacts, if any:

DNA

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? Not sure this apply's. Tallest structure is and will be existing apartment. Exterior will be cedar and stone

b. What views in the immediate vicinity would be altered or obstructed?

None

c. Proposed measures to reduce or control aesthetic impacts, if any:

Restoration of existing residence should have positive aesthetic impact. New soldier pile wall is mostly hidden by existing residence. Enclosing garage will also significantly improve appearances.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

DNA

b. Could light or glare from the finished project be a safety hazard or interfere with views?

DNA

c. What existing off-site sources of light or glare may affect your proposal?

DNA

d. Proposed measures to reduce or control light or glare impacts, if any:

DNA

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Lake Washington

b. Would the proposed project displace any existing recreational uses? If so, describe.

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

DNA

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

DNA

c. Proposed measures to reduce or control impacts, if any:

DNA

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. Private road serves site

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

DNA

c. How many parking spaces would be completed project have? How many would the project eliminate?

Should be no change

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not Including driveways? If so, generally describe (indicate whether public or private).

No

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

DNA

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

No change

g. Proposed measures to reduce or control transportation impacts, if any:

No change

15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

DNA

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No change

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature.....

Date Submitted..... May 2010

GEOTECH
CONSULTANTS, INC.

13256 Northeast 20th Street, Suite 16
Bellevue, Washington 98005
(425) 747-5618 FAX (425) 747-8561

April 23, 2010

JN 02438

Marty Vowels
1646 – 100th Place Southeast
Bellevue, Washington 98004

Subject: ***Critical Areas Land Use Considerations for Proposed Soldier Pile Wall and Reduction of 75-foot Toe of Slope Setback***
Remodel of Existing Residence
708 Shoreland Drive Southeast
Bellevue, Washington

Dear Mr. Vowels: *via email*

This letter presents our geotechnical conclusions related to your application for a Critical Areas Land Use Permit (CALUP) related to 1) construction of a soldier pile wall east of the house for landslide protection, and 2) reduction of City of Bellevue's prescriptive 75-foot toe-of-slope structure setback. The existing house is undergoing a substantial remodel. As a part of this work, you intend to construct a new cover over the front entry, install utilities between the house and the toe-of-slope, and enclose the open garage space under the detached building to the southeast of the house. We previously completed a January 9, 2003 geotechnical report for the subject property. At the time of that study, you were proposing to demolish the existing house and construct a new, larger residence. The scope of the current proposal has been scaled back substantially. The existing house will now be remodeled, generally maintaining the existing footprint. This dramatically reduces the amount of site disturbance from the previously-proposed entirely new residence.

SOLDIER PILE WALL: As discussed in our January 9, 2003 geotechnical engineering report, a shallow landslide occurred in 1991 on the steep slope to the east of the southern half of the residence. This slide was a mudflow that involved the uppermost approximately 2 feet of weathered soil and which occurred following heavy rainfall. The existing surface vegetation consisting of brush and trees was carried down the slope with the wet soil. This slide debris traveled over the top of the existing rockery located at the toe of the slope to impact against the eastern wall of the house and the northern portion of the detached garage structure. It is reported that approximately 20 yards of mud, in addition to stumps and logs, had to be removed to clean up the slide debris. The area affected by the soil movement is now covered only with low-growing vegetation. The slope above the north half of the house remains undisturbed, and is in a similar condition to what existed on the slope above the south portion of the house before the 1991 landslide. Similar shallow landslides have occurred on the steep slopes above, east of, Shoreland Drive Southeast in the past. The slides in close proximity to your property have not extended deeper than a few feet, as the underlying soil is dense and has a high strength.

Our 2003 report contains detailed geotechnical recommendations for mitigation of potential hazard of shallow landslides on the steep slope. It is typically most appropriate and cost-effective to provide an adequate setback from the toe of a slope for protection against damage from future landslides and to prevent construction from adversely affecting stability of the slope. However, given the steepness and the height of the slope, and the fact that the existing house will not be reconstructed, it is not feasible to move the structure away from the slope's toe to mitigate this landslide hazard. Stabilizing the steep slope itself would not practical, as it would require installing

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several backfilled retaining walls stepping up the slope so that it could be regraded to a flatter inclination. Our recommendations are therefore based around mitigating the potential hazard presented to the existing structures and your family by foreseeable future shallow soil movement upslope of the house and detached garage.

We have considered the City of Bellevue's requirements for mitigation of landslide hazards. **Avoidance Measures** are most desired by the City's code. As was evident from the 1991 landslide, and is typically the case with similar steep slopes, maintaining or promoting surface vegetation, including trees, will not prevent future slope instability. The existing vegetation and trees were simply pulled downhill along with the near-surface soils in the 1991 landslide. In fact, the trees increased the hazard of damage and/or injury, as their trunks and stumps impacted the structure far harder than just the mud would have. We have witnessed this on other similar landslides. There were no indications of improper control of upslope manmade drainage systems at the time of the 1991 landslide. Natural surface drainage combined with infiltration of heavy rainfall was the apparent sources of excessive soil moisture that triggered the landslide. It is our professional opinion that the only appropriate landslide protection mechanism for the house is the construction of a wall across the lowermost portion of the slope to slow or catch debris from future slides. Such a wall must be very strong, and would be limited to a conventional concrete wall or a soldier pile wall. There is insufficient space to safely construct a concrete wall between the house and the existing rockery that defines the toe of the slope, without potentially destabilizing the rockery and adversely affecting stability of the steep slope. Excavation for the footing of such a wall would be relatively deep and cover at least the entire area between the house and the rockery, removing all lateral support for the rockery. A soldier pile wall could not physically be installed in the narrow area between the rockery and house, as there needs to be enough space that even a small drill rig can swing from side-to-side to drill and install the soldier piles. You have confirmed this with a local shoring contractor, who has visited the site on several occasions and has taken measurements for drill rig access to the area east of the house. Similarly, a slide catchment wall extending southward from the detached garage cannot be installed as a conventional concrete wall without potentially destabilizing the existing rockery and the slope above it.

Soft Stabilization is the second option preferred by the City of Bellevue for landslide mitigation. As discussed above, the use of non-structural measures, such as plantings, trees, stepped back rockeries or other biotechnical measures will not stabilize the near-surface soils and prevent a future landslide from damaging the house or causing harm to its occupants.

Considering the steep inclination of the slope, the previous history of shallow soil movement on the site and in the vicinity, and the close proximity of the steep slope to the existing house, it is our opinion that construction of the recommended soldier pile wall is the most appropriate option for landslide mitigation. It is important to note that the proposed soldier pile wall is not intended to stabilize the steep slope and prevent future landslides. That would require the installation of several walls stepping up the slope and disturbing essentially the entire slope area. Instead, we have proposed installing a single soldier pile wall that extends above the existing grade near the toe of the slope to catch debris from a future slide that will travel down the slope toward the house. This wall will also replace the existing rockery, which is not a structural retaining wall. The design recommendations that we presented in our 2003 geotechnical report for the soldier pile wall are still applicable.

In order to address the **Performance Standards** present in Section 20.25H.125 of the Bellevue Municipal Code, we make the following statements:

Item A: The proposed soldier pile wall would be located immediately upslope, east, of the existing rockery. The grade at the base of the steep slope was previously disturbed by excavation for the original house and rockery construction. The soldier pile wall would be located only as far east as was necessary to drill behind the existing rocks and the gravel that was placed behind the rockery for drainage purposes. The slope above the soldier pile wall would not be disturbed. As discussed above, installing the soldier piles in front of the rockery is not an option, due to the limited amount of space for drilling equipment between the rockery and the front walkway and entrance to the house.

Item B: The proposed soldier pile wall will be located as close as practical to the existing rockery, which is a manmade feature previously constructed at the toe of the slope. The sloped area above the soldier pile wall will remain undisturbed.

Item C: The soldier pile wall will not increase the risk of slope instability or pose a hazard to the surrounding properties. This wall is necessary to provide safety for the house's occupants in the event of a future landslide.

Item D: The proposed wall will simply extend above the surface of the steep slope, which will avoid disturbance to the steep slope and will prevent the need for disturbance of the slope area above the wall.

Item E: The amount of impervious area will not be increased by construction of the soldier pile wall. From our discussions with you, the net impervious area on the site will likely go down with the replacement of some impervious surfaces with pavers.

Item F: Backfill will not be placed behind the proposed wall, so it will not result in a change of the existing grades upslope of the soldier pile wall. As such, it is not necessary to step the wall system or regrade the area above the wall to minimize topographic changes.

Item G: The detached garage already incorporates a permanent slide catchment wall into its upslope foundation wall. It is not possible to similarly utilize the existing house to laterally support a permanent catchment wall, and avoid a free-standing wall. The eastern, upslope, wall of the house is framed, and contains the front door and several windows. It could not be replaced with a solid concrete foundation wall.

Item H: This item is not applicable, as a pole building will not be used. The proposed wall construction will maintain the existing topography, as the wall will stick up above the surface of the slope, but will not be backfilled onto the steep slope.

Item I: This item, which refers to deck supports, is not applicable.

Item J: As discussed above, the slope and surface vegetation behind the soldier pile wall will not be disturbed. As a result, no temporary erosion measures upslope of the wall will be needed. Excavation made in front of the wall will be protected with timber lagging.

REDUCTION OF 75-FOOT TOE-OF-SLOPE BUFFER: The reduction from the prescriptive 75-foot toe-of-slope buffer is necessary to allow the construction of the entry cover, buried utilities, and mechanical equipment, and to enclose the current open garage area beneath the detached structure. The area in which these elements will be constructed has been disturbed previously by

excavation for construction of the existing house, detached structure and rockery, and installation of existing utilities to the house.

Geologic and Landslide Conditions: In addition to a reconnaissance of the surface conditions and a review of available geologic information for the area, we completed four test borings on the site as a part of our 2003 geotechnical engineering study. Since that time, we have visited the site on several different occasions, allowing us to observe the existing conditions as recently as February 2010. Two borings were drilled at the base of the steep slope, between the rockery and the house. These borings encountered loose silty sand overlying dense, glacially-compressed silt. The glacially-compressed silt lies within a few feet of the existing ground surface on the steep slope. This competent soil was exposed when the shallow landslide occurred in 1991. No groundwater seepage was observed in the borings at the base of the slope. It is possible that at least localized groundwater may be found perched on top of the dense silt following extended heavy rainfall.

As discussed above, a shallow landslide occurred above the south portion of the house in 1991. This slide was the result of excessive moisture destabilizing the loose, weathered soil within approximately 2 feet of the ground surface. Soil and vegetation from this slide moved down the slope, flowed over the top of the rockery, and impacted the east wall of the house. The area affected by this slide has now been revegetated, and no further slope movement has occurred on the site. Another landslide occurred on two lots to the south in the mid-1990s. This slide also was a shallow flow-type landslide that affected the near-surface soil on an old, oversteepened cut that had been made previously for Shoreland Drive Southeast. Other episodes of shallow soil movement have occurred on steep natural and manmade slopes above Shoreland Drive Southeast in the general vicinity. There is no history of deep-seated soil movement in the area.

Hazards Analysis: The existing house, which is being remodeled, already lies only approximately 15 feet from the existing rockery that was excavated into the toe of the steep slope when the residence was originally constructed. The detached garage structure to the southeast was also excavated into the toe of the steep slope. Between the house and the existing rockery is a relatively flat area covered by concrete, gravel and landscaping. Considering the above, the buffer area has already been disturbed. The intended functions of the buffer to prevent adverse stability impacts from development and to protect the planned development from damage due to future instability have already been degraded. The planned work between the existing rockery and the residence will not cause disturbance of the steep slope or reduce the stability of the slope. The proposed soldier pile slide catchment wall would be installed near the toe of the slope and would protect the house from serious damage in the event of future soil movement on the steep slope above. This wall would provide structural support for the toe of the slope, unlike the existing rockery, which is not a retaining wall. The proposed work in the buffer zone should also not adversely impact the stability of the neighboring properties.

Minimum Recommended Building Setback: Due to the existing degraded condition of the buffer, and the expected scope of the work anticipated in the buffer, it is our professional opinion that no buffer from the toe of the steep slope is needed for the planned work. With the exception of the soldier pile wall, all new work would occur in front of the existing rockery, in an area that has already been disturbed without adverse impacts to the stability of the slope. Installing the soldier pile wall immediately upslope of the rockery maximizes protection of the residence while minimizing disturbance of the steep slope.

Hazard Mitigation: As discussed above, the proposed work within the buffer zone will not increase the hazard to the property or neighboring properties beyond what currently exists. Allowing the

soldier pile catchment wall to be constructed in the buffer will improve safety for the house and its occupants when a landslide occurs on the slope in the future.

If you have any questions, or if we may be of further service, please do not hesitate to contact us.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

4/23/2010

Marc R. McGinnis, P.E.
Principal

MRM: jyb

Project Information	
Permits	**10-106572 DB** and 09-131082 BR
Owners	Pam and Marty Vowels
Address	708 Shoreland Drive SE Bellevue, WA 98004
Jurisdiction	Bellevue, WA
Zoning	R-2.5
Project Description Primary purpose of this application is to increase the Entry Cover, add a Soldier Pile Wall, move utility trench and existing mechanical. This is related to remodel on permit 09-131082 BR. The Soldier Pile Wall was previously approved by expired permit 04-136175.	**Permit 10-106572 DB** Increase Entry Cover Enclose ADU Garage Add Soldier Pile Wall Move Utility Trench Move existing Mechanical from under eaves **Permit 09-131082 BR** Restore Main House + Repair Rot, electrical, plumbing + Improve Insulation, Windows & Doors Dining Room Wall Fill In Remove Kitchen Nook Remove Deck Remove Closets

Project Contacts	
Owners	Marty Vowels 425-864-5804
Architect	Gerald Redding 425-822-6777 934 6th Street, Suite 201 Kirkland, WA 98033
Structural Engineers – Building	George Gimas, P.E. 206-789-6003 911 Western Ave, Suite 309 Seattle, WA 98104
Structural Engineers – Soldier Pile Wall	Mitchell Engineering, Inc 425-747-1500 7821 168th Ave NE Redmond, WA 98052
Soils Engineer – Soldier Pile Wall	Marc McGinnis 425-747-5618 Geotech Consultants, Inc 13256 NE 20th Street, #16 Bellevue, WA 98005

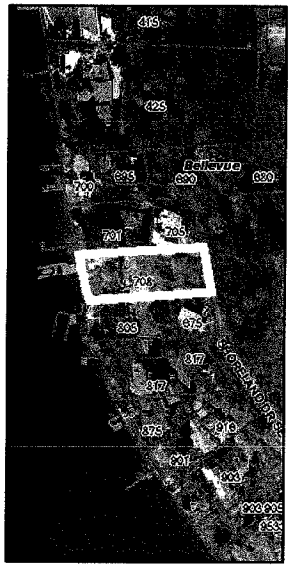
Index

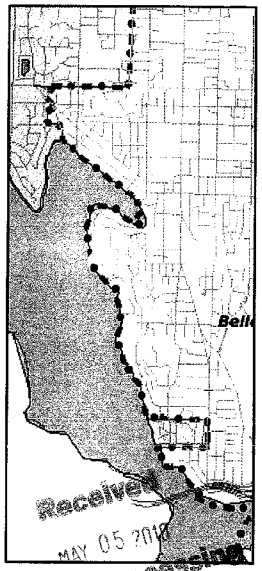
1	Cover Sheet and Vicinity Map
2	Site Plan
3	Site Plan Approved with Expired Permit 04-136175 BR
4	Project Narrative and Mitigation, Restoration and Enhancement Plan
5	Roof, Post, Beam, Entry Cover Plan
6	Entry Cover Section R
7	Enclose Apartment (ADU) Garage Plan
	Geotechnical Study
	Environmental Checklist
	Soldier Pile Structural Engineering Report
	Determination of Non-Significance Report – City of Bellevue March 2005
	Structural Engineer Section and Calculations
	Photos

Lot Coverage	
Site Area	33,479 SF
40% Slope	-10,915
Adjusted Site	22,564 SF
New Structural	Zero
Lot Coverage %	No Change

Heated Area	
Main Floor	2070
Basement	814
	2,884
Apartment	816

Vicinity Maps





TOPOGRAPHIC SURVEY

IN THE SW1/4, SE1/4, SEC. 31, T.25N., R.5E., W.M.

Scale 1" = 20'

North ↑

No Change To Lot Coverage

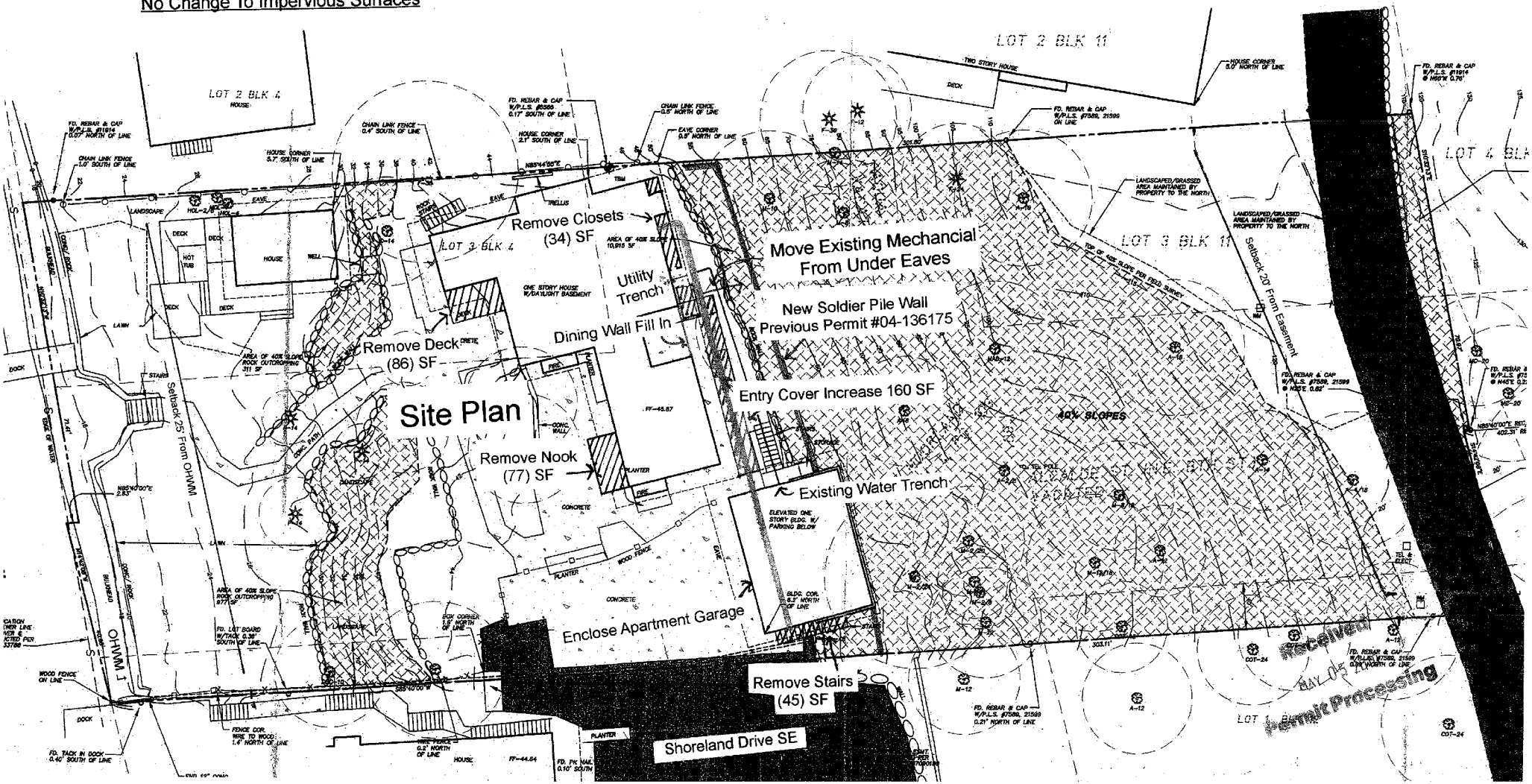
No Change To Impervious Surfaces

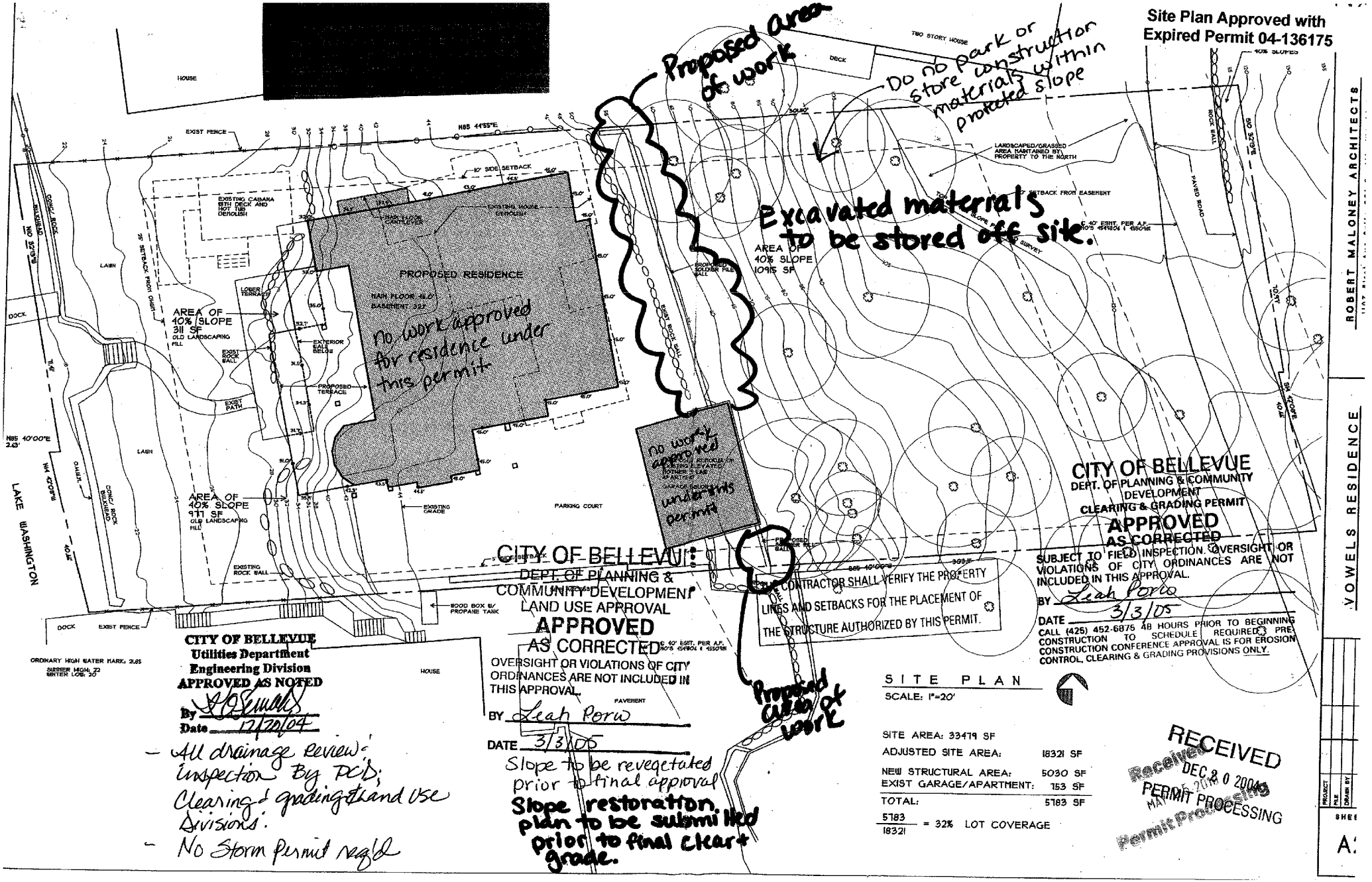
Owner

Marty Vowels 425-864-5804

708 Shoreland Drive SE

Bellevue, WA 98004





Site Plan Approved with Expired Permit 04-136175
Proposed area of work
Do no park or store construction materials within protected slope
Excavated materials to be stored off site.
no work approved for residence under this permit
no work approved under this permit
PROPOSED RESIDENCE
AREA OF 40% SLOPE 311 SF OLD LANDSCAPING FILL
AREA OF 40% SLOPE 977 SF OLD LANDSCAPING FILL
AREA OF 40% SLOPE 10915 SF
LAKE WASHINGTON
PARKING COURT
EXISTING CABANA WITH DECK AND HOT TUB DEMOLISH
EXISTING HOUSE DEMOLISH
LANDSCAPED/GRASSED AREA MAINTAINED BY PROPERTY TO THE NORTH
TWO STORY HOUSE
DECK
HOUSE
LAWN
DOCK
EXIST FENCE
EXISTING ROCK WALL
WOOD BOX W/ PROPANE TANK
ORDINARY HIGH WATER MARK: 21.85
SUMMER HIGH: 22
WINTER LOW: 20
CITY OF BELLEVUE
DEPT. OF PLANNING & COMMUNITY DEVELOPMENT
LAND USE APPROVAL
APPROVED
AS CORRECTED
OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.
BY Leah Porw
DATE 3/3/05
Slope to be revegetated prior to final approval
Slope restoration plan to be submitted prior to final clear + grade.
THE CONTRACTOR SHALL VERIFY THE PROPERTY LINES AND SETBACKS FOR THE PLACEMENT OF THE STRUCTURE AUTHORIZED BY THIS PERMIT.
Proposed area of work
CITY OF BELLEVUE
DEPT. OF PLANNING & COMMUNITY DEVELOPMENT
CLEARING & GRADING PERMIT
APPROVED
AS CORRECTED
SUBJECT TO FIELD INSPECTION. OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.
BY Leah Porw
DATE 3/3/05
CALL (425) 452-6875 48 HOURS PRIOR TO BEGINNING CONSTRUCTION TO SCHEDULE REQUIRED PRE-CONSTRUCTION CONFERENCE APPROVAL IS FOR EROSION CONTROL, CLEARING & GRADING PROVISIONS ONLY.
CITY OF BELLEVUE
Utilities Department
Engineering Division
APPROVED AS NOTED
By
Date 12/20/04
- All drainage review & inspection By PCD; Clearing & grading & Land Use Divisions.
- No Storm Permit req'd
SITE PLAN
SCALE: 1"=20'
SITE AREA: 33479 SF
ADJUSTED SITE AREA: 18321 SF
NEW STRUCTURAL AREA: 5030 SF
EXIST GARAGE/APARTMENT: 753 SF
TOTAL: 5783 SF
5783 / 18321 = 32% LOT COVERAGE
RECEIVED
DEC 20 2004
PERMIT PROCESSING
Received
MAY 05 2010
Permit Processing
ROBERT MALONEY ARCHITECTS
VOWELS RESIDENCE

Project Narrative

Site

The site is an existing private residence that was built in 1952. There were remodels in 1961 and 1989. The lot is approximately 33,000 SF, however only about 18,000 is usable because of the steep slope on the east side.

There are three buildings on the site, the Main House, Apartment and Cabana. In 1991 there was a slide that damaged the east side of the Main House.

The landscape is mature with various plants, scrubs, trees and lawns.

Design

In an effort to minimize the overall impact on the site the buildings will be restored instead of demolished and build a new home. To be specific roofs are being replace, existing walls enclosed like the dining room and apartment garage (instead of additions) and energy efficiency significantly improved with foam insulation and new windows and doors with higher U values.

The Soldier Pile wall design has almost zero impact by placing it directly behind the existing rock wall. This design also provides significantly more safety against slides with the 6' catchment above the wall and the piles drilled 21' below. The majority of the wall is also hidden behind existing buildings which helps minimize visual impact.

Feasible Alternatives

As stated above a restoration was chosen instead of tearing down the home and building a new home. This choice essentially eliminated any significant impact on the area. We have also chosen to reduce the size of the home (removed kitchen nook, deck, etc) and not increase any impervious surfaces. In addition, we hope to replace some impervious surfaces with pavers which should create be a positive impact on the site.

The 1991 slide that damaged the Main House proved the existing rock wall does not work. After several years of research and discussing with numerous soils engineers I believe the soldier pile wall provides the most safety and least impact. The design of putting the Soldier Pile wall also means almost no impact and significant benefit to all. If there is a better solution I would be extremely interested to discuss it.

Alternatives

The attached GeoTech report dated April 23, 2010, page 2 discusses why other alternatives and why the Soldier Pile Wall was preferred.

Decision Criteria - Land Use Code Section 20.30P

A - *Required Permits* - Permit 10-106572 DB and 09-131082 BR

B - *Best Practices and Least Impact* - See comments above and attached GeoTech Report dated April 23, 2010

C - *Performance Standards 20.25H* - See the GeoTech report dated April 23, 2010, page 2

D - *Public Facilities* - there will be no impact or change to public facilities including streets, fire protection, and utilities.

E - *Mitigation* - See attached Mitigation plan.

F - *Compliance* - To the best of my knowledge this proposal complies with other applicable requirements of this code

Mitigation, Restoration or Enhancement Plan

Design

Soldier Pile Wall - As discussed in the Project Narrative the Soldier Pile wall was considered the preferred option because it had essentially no impact on the site. Specially, the new wall will be located as close as possible behind the existing rock wall and the related drain rock behind the big rocks. So the only impact to landscaping is the removal of the old rocks and the existing English Ivy that has grown on top of the rock. In addition, the location of the wall is extremely close to the house. So historically it was been very difficult to grow anything except moss between the Main House and the wall because of shading and bad soil. So by design the new Soldier pile wall will have no significant impact on landscaping. And therefore nothing really to mitigate or restore. But clearly the new Soldier Pile wall Enhances the safety of our property and the adjacent neighbors property.

Other Improvements - The other improvements (Entry Cover, Enclosed Garage, Mechanical Equipment, Utilities Trench, etc) also have no impact on landscaping so there is nothing to mitigate. However the Entry Cover should provide enhanced safety for mossy and icy walkways that have been historically very difficult to manage. The Entry Cover is also only going over the existing concrete walkway so no impact. Enclosing the garage should also provide enhanced Aesthetics and safety by enclosing it. Locating the mechanical equipment in this area where landscaping is difficult frees up other areas where landscaping is possible. The utilities trench is basically in the same spot as the existing water line, so no impact because its under existing walkways that will be redone, hopefully with pavers, and there was no landscaping in this area due to bad light and soil conditions to disturb.

Planting Plan

Mitigation - As stated above we do not believe there is really anything to mitigate. The entire purpose of the new Soldier Pile wall is to **Enhance Safety!**

Restoration - As stated above the only real landscaping that will be impacted is the existing English Ivy on the existing Rock wall and slightly behind the wall. Any English Ivy removed or damaged above the new Soldier Pile wall will be allowed to grow back. On the face of the new Soldier Pile wall we will try to grow Boston Ivy.

Enhancement - As stated above the sunlight and soils conditions for growing plants are terrible in front of the wall. However we will try to grow the following types of plants in this area: hydrangeas, hostas, ferns, bleeding hearts, hellebores, sweet flags, Japanese yews and varied ornamental plants. The area will be covered with bark. The existing fence and mechanical equipment behind it will be moved to the north to try and increase the amount of area that can be landscaped. This should also minimize the area north of the fence that will be difficult to landscape because of limited sunlight, poor soil and mechanical equipment.

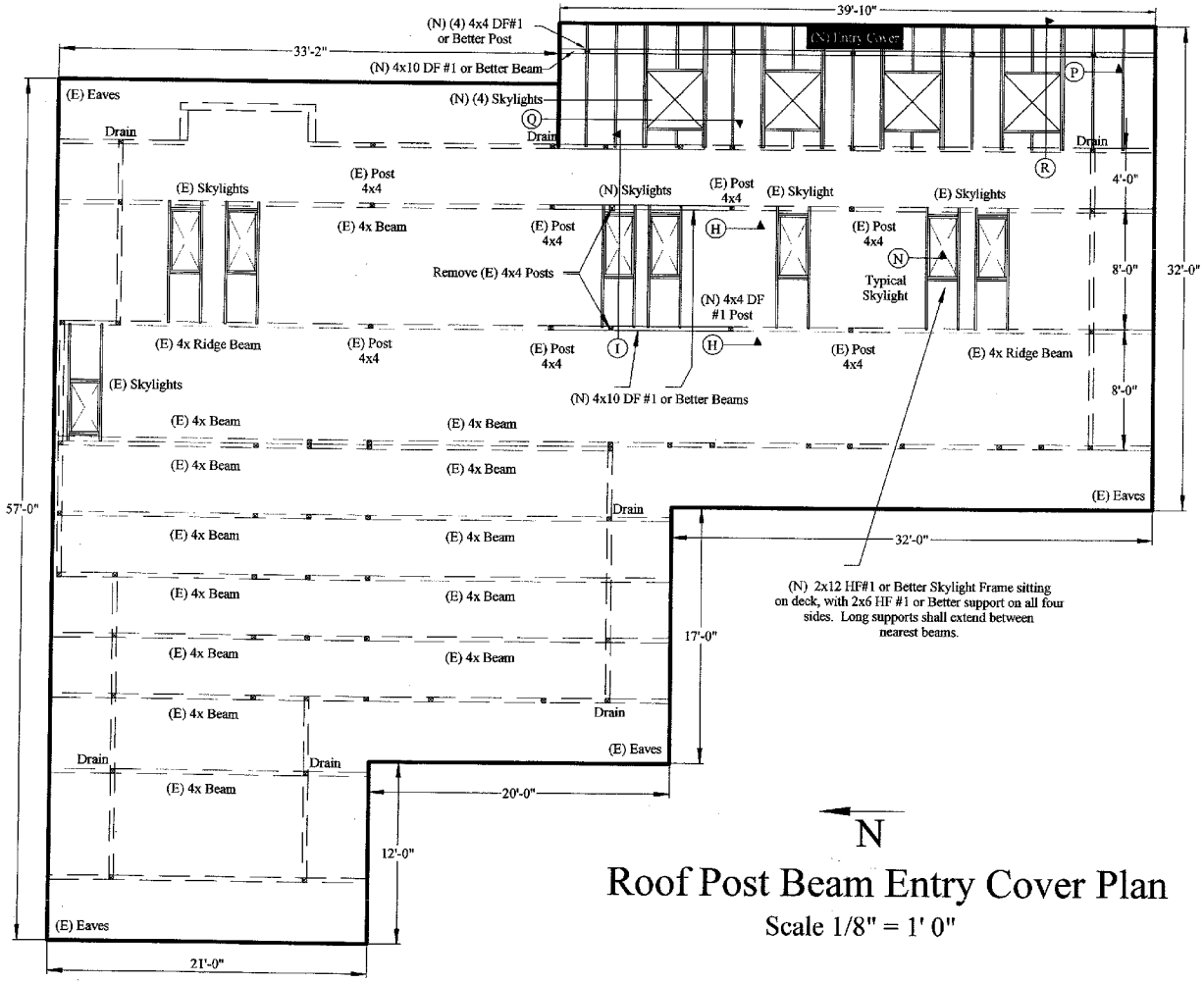
Monitoring

This area is directly in front of our Entry so we will be highly motivated to ensure plant establishment and survival.

Cost Estimate

The area is not that big and we will do the landscaping ourselves, so the cost estimate should be between $500 and $1000. There is no need for a performance surety. The only reason nothing will grow is because of limited sunlight and poor soils conditions. Keep in mind that the soils engineer does not want us to dig in front of the wall below grade. And the building inspector wants the grade to slope away from the house. So difficult and unsafe to dig in new soil.

Received
MAY 05 2010
Permit Processing



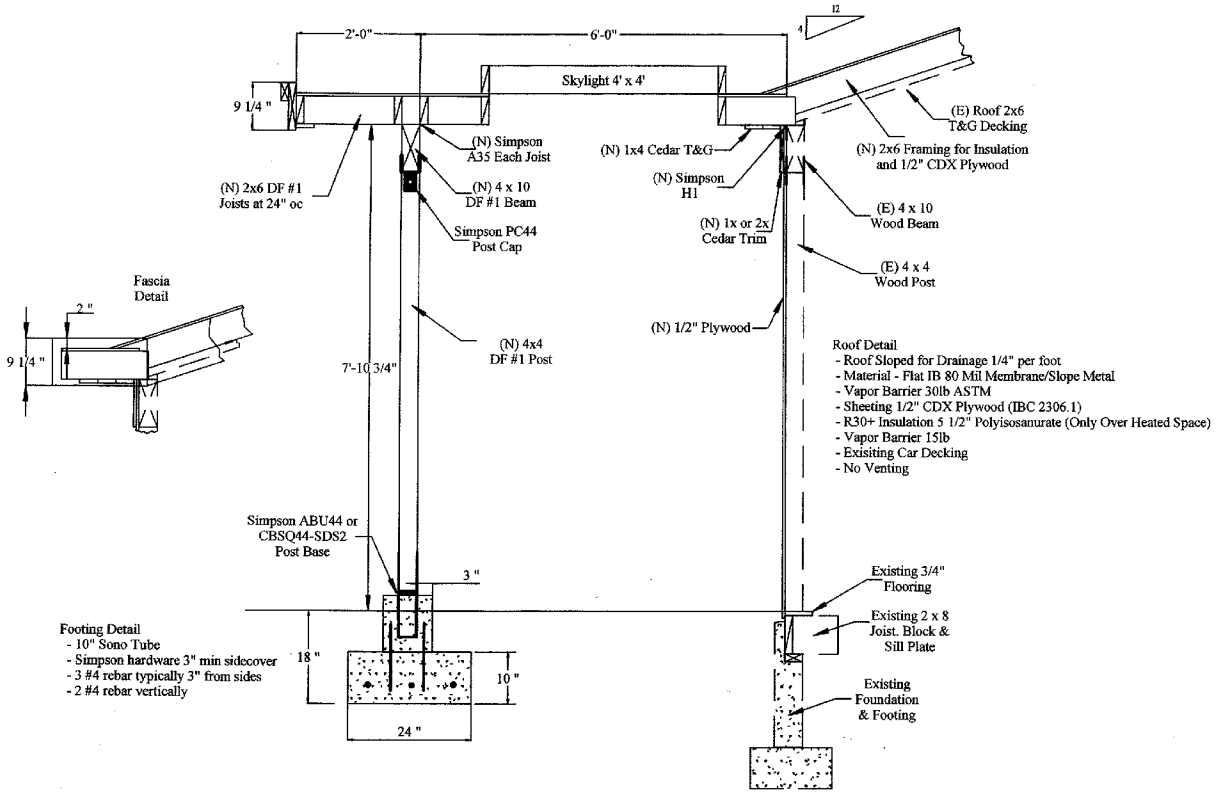
N

Roof Post Beam Entry Cover Plan

Scale 1/8" = 1' 0"

Received
MAY 05 2010
Permit Processing

New Entry Cover (aka Breezeway) Section R
North Elevation
Scale 1/2" = 1' 0"



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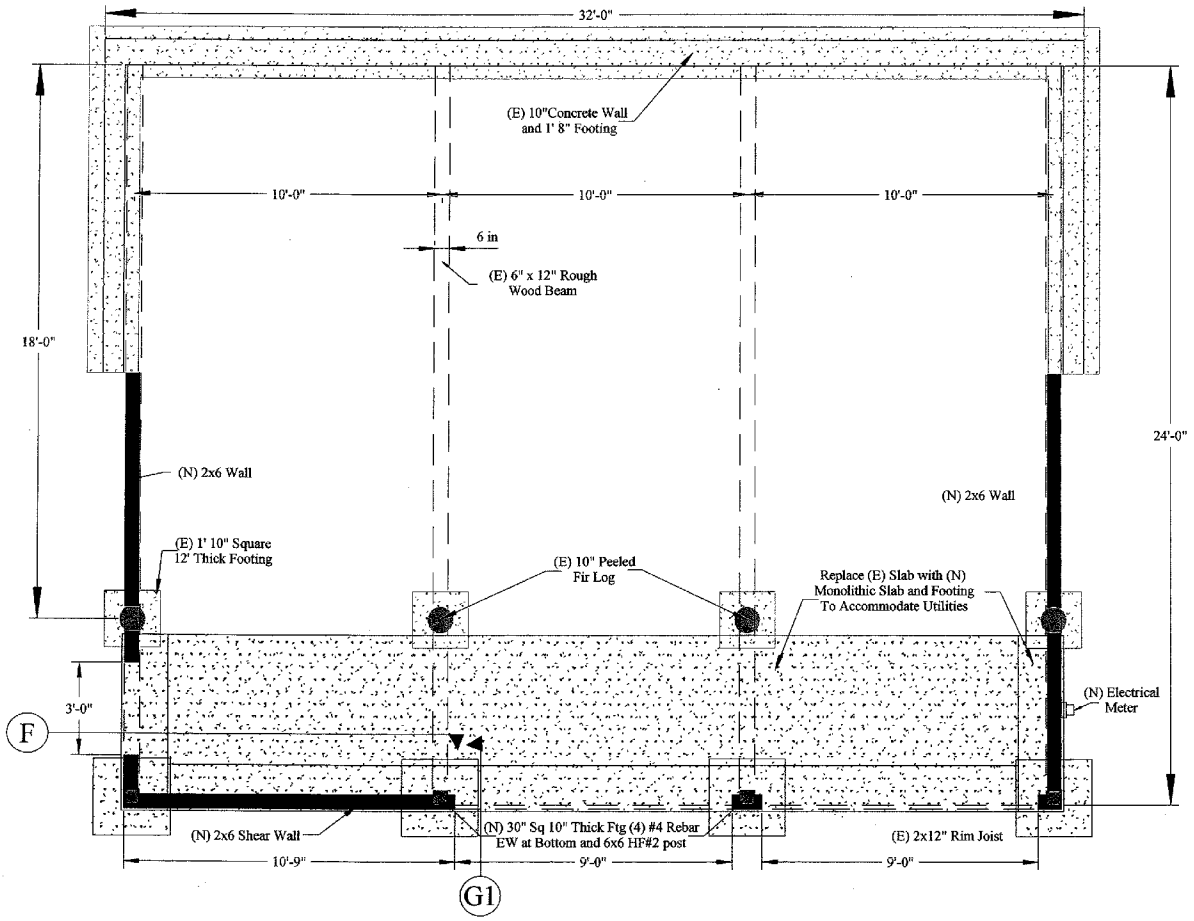
Permit Processing

Apartment Garage Floor Plan

N

Scale 1/4" = 1' 0"



Received
MAY 05 2010
Permit Processing